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**WO 01/76173 A2**

(54) Title: METHOD OF PROVIDING ADVERTISEMENT DATA FROM A SERVER TO A MOBILE TELEPHONE

(57) Abstract: The present invention describes a destination WWW or WAP site in which a large number of adverts are stored. The location of a mobile telephone is determined using conventional location finding. This information is then used so that when a user visits the destination site using the mobile telephone, he or she can see in particular those adverts specific to his or her actual location. The adverts typically relate to special offers.

## Method of providing advertisement data from a server to a mobile telephone

### Field of the Invention

5 This invention relates to a method of providing advertisement data from a server to a mobile telephone. The term 'mobile telephone' used in this patent specification should be expansively construed to cover any kind of mobile device with communications capabilities and therefore includes radio telephones, smart phones, communicators, and wireless information devices. It includes devices able to communicate using not only mobile radio  
10 such as GSM or UMTS, but also any other kind of wireless communications system, such as Bluetooth and any kind of protocol, including WAP.

### Description of the Prior Art

15 Advertisers use many techniques to target their advertising to specific groups of people. For example, television advertisements are carefully placed during and after programmes of interest to the advertisers' target audience; print media advertisements are placed in the appropriate sections of relevant magazines etc. Advertising hoardings on the sides of roads and buildings provide the same function; passing trade can be attracted into a retail outlet  
20 etc. because of special offers promoted on those hoardings.

One advantage of using a mobile telephone as the advertising delivery medium is that the location of the mobile telephone can be known to the cellular infrastructure and that information passed onto servers on which adverts are stored. Then, for example, when a  
25 user is within 200 meters of a particular bookstore, for example, an advert for the bookstore can automatically be sent for display on that user's mobile telephone without any selection or initiation by the user. With conventional GSM mobile telephones, the message format is however essentially limited to text. But with the advent of WAP, visually richer messages can be displayed on the mobile telephone. Location specific 'push' advertising of this sort is  
30 considered by many to have great commercial promise, both for retailers and other

commercial outlets. The benefits may extend also to the user: advertising supported revenues can subsidise the cost of the mobile telephone itself and network usage. Additional functionality is possible too: for example, a special offer from a restaurant may be transmitted to a user's mobile telephone (e.g. 20% off a set price lunch if you come to the restaurant between 1.30pm and 2 pm) ; the user may be able to express an interest in that special offer using the mobile telephone, knowing that a table will be ready as soon as he or she reaches the restaurant.

One possible disadvantage of such 'push' advertising schemes, exemplified by US5852775 (Earthweb) and WO00/35216 (Spotcast), is that 'push' technology in general has failed to realise its early promise; users in the desktop world have proven to be relatively unreceptive to the 'push' paradigm. Its acceptability to the mobile user remains untested. The possibility of a user being overwhelmed with a large number of unwanted advertisement messages whenever he or she walks down a shopping street is clearly unappealing. A possible outcome is that the 'push' model of advertising, with content dependent on the location of the user, will simply fail to captivate.

### Summary of the Present Invention

In accordance with the present invention, there is provided a method of providing advertisement data from a server to a mobile telephone, comprising the following steps:

- (a) making a set of advertisement data available to at least one server;
- (b) finding the location of a mobile telephone of a user;
- (c) allowing the user to access or download a sub-set of the set of advertisement data from the server, the sub-set being determined by the location of the mobile telephone.

The present invention contemplates, in one implementation, the server hosting a destination web or WAP site in which a large number of adverts are stored. Users access the site to view (or 'pull') advertisements of interest to them; the server applies a filter so that only

advertisements relevant to the current location of the user are accessible. Hence, this implementation differs from previous location based advertising systems for mobile telephones, which have all 'pushed' adverts to the users' mobile telephone. None of the prior systems therefore allow the user to access or download a sub-set of the set of advertisement data from the server, in which that sub-set is automatically determined at the server according to the location of the user (or, more exactly, their mobile telephone).

The location of the mobile telephone user can be determined using conventional location finding (such as by the cell location, Geographic Positioning System, or triangulation amongst cells) or can be determined by the user defining her location by inputting data to her mobile telephone, for example, by inputting a post code, or by selecting location options from menu list options displayed on the telephone. These list options can form a progressive more detailed hierarchy, such as starting off with major cities at the top level (e.g. London) and progressing towards greater precision. If London is selected, the next option list is North London, West London, South London, East London, West End, City; if City is selected, a list of well known landmarks in the City of London might be listed (e.g St Paul's Cathedral, Tower Bridge, Bank of England etc.). This information defining the location of the mobile telephone is then used at the server so that when a user visits the destination site using her mobile telephone, she can see only those adverts relevant or specific to her actual location.

As noted above, by allowing the user to visit an advertising web site, which aggregates advertising messages from multiple sources, whenever she wishes, much of the user resistance to the conventional '*push*' advertising paradigm can be avoided. The present invention in essence contemplates a '*pull*' approach to location dependent advertising to mobile telephones, in which many different adverts can be aggregated. The user can then navigate through different product/service categories on the destination site to browse the available advertising offers across a broad range of goods and services etc. Those offers are typically from nearby businesses. (The term 'offer' is not used in the contractual sense but in the ordinary non-legal sense).

The user can also set up profiles of her requirements. For example, if on a clothes shopping trip, she may be particularly interested in seeing only adverts from clothing retailers, or ensuring that those adverts are given priority when she browses through the destination advertising web site. The advertising destination web site can be combined with other kinds of information to make it useful and attractive for the user to visit: for example, a tourist visiting a new city might be particularly interested in imposing a profile on the destination site so that it provides only information about tourist sites of interests or even a suggested tour. For example, advertisements for book shops and museums meeting a defined profile of the user could be provided on the site; the user could readily browse through these or they could be set (at the user's option) to appear automatically in a prominent position on the site to avoid potentially time consuming navigation (a particular concern when mobile) or could be set to alternate with an idle screen.

The advertising messages may relate to offers which are not only location specific but also time of day specific. Hence, special offers from restaurants could be at lunch time. Offers for perishable items may be particularly useful for the retailer or business, e.g. for flowers and food. Offers on the site would typically be unavailable from other sources, giving the destination site the ability to draw users into visiting it.

It is well known that 'special offers' (e.g. price discounts, two for ones etc. in supermarkets; author signings in book stores etc.) can be very effective in attracting customers to a retailer. The present invention potentially gives consumers increased leverage over retailers by making it fast and convenient to locate these kinds of special offers in a given location.

Because it is the consumer in effect controlling the flow of information to him or her, there is a greater likelihood that he or she will act on that information. The present invention carries with it the potential of changing personal shopping habits by placing greater emphasis on special offers and thereby making retailing more competitive. For businesses, the prospect of using highly targeted adverts in this way is particularly attractive because the

adverts are likely to draw in people who might otherwise not transact with those businesses: hence, this advertising medium can deliver new impulse purchases, rather than merely encourage custom from people who would likely be customers anyway.

- 5 The presently envisaged destination site could form part of an existing portal or other web or WAP site, adding value by increasing customer traffic to the site.

Revenue can be generated for the destination site through advertising fees, sharing in airtime revenues, in e-commerce and conventional commerce generated using the invention, reselling data about user preferences (with permission), and reselling the database of  
10 advertisers.

In a final aspect of the invention, there is a server storing a set of advertising data and programmed to provide a sub-set of that data to a mobile telephone requesting such data  
15 from the server, the server being programmed to make the selection of the sub-set automatically in dependence on the location of the mobile telephone of a user.

### Detailed Description

20 An example of the invention now follows. The destination site in this implementation is called the TELDEALS™ site from Saverfone Limited of the United Kingdom.

- A consumer is on a major shopping street, such as Oxford Street, London, England at  
25 1 pm.
- Seeing the TELDEALS destination site URL on a phone portal, or having heard about the service or used it previously, the consumer visits the site using her mobile telephone to see if there any nearby special offers.

- The retailer Boots in Bond Street, off Oxford Street, is offering 10% off on purchases during the next hour. This offer is made to consumers within 500m of the store, who are likely to be passers-by and truly incremental business
  - The user would typically see three ads on their screen at one view; navigation through multiple categories (e.g. food, books, clothing etc.) is also possible
- The consumer indicates that she will accept the offer, and receives a coupon number which is displayed on the user's mobile telephone. TELDEALS adds this acceptance to a profile of that user's behaviour for improved future targeting.
- The consumer goes to Boots and redeems the offer by showing the sales assistant the coupon number. An affinity program could be offered to regular users of the TELDEALS site.
- Boots pays TELDEALS a fee for the advertisement placement. TELDEALS may also gain revenue from the cellular operator for airtime spent on site. If the transaction is via a mobile phone, TELDEALS would also take a share of that call revenue.
- With the advent of WAP 1.2 , users could also register for highly relevant ads to be "pushed" to their handsets without their intervention
  - users could provide a detailed profile on-line to assist in this targeting
  - this model would incur telecom charges, but could bring regular usage to 1-2 times per day
- Ads could include occasional free offers, to stimulate lottery-like monitoring of the site
- TELDEALS can be configured to take a share of credit card transactions,
  - The customer pays the full price via credit card

- Boots forwards credit card transactions to TELDEALS at the end of the day, via normal processing bank
  - for transactions where card number matches that of consumer who has accepted coupon, TELDEALS rebates consumer the coupon amount
  - 5      — TELDEALS charges retailer a percentage of the sale
- 
- If users stay for lengths of time on the TELDEALS site seeking ads, the service could simultaneously provide other relevant local data, e.g. where's a nearby shoe store?
  - Adverts could also be targeted based upon prior redemption/viewing behaviour, e.g. if  
10      a viewer is much more prone to acting on a store-wide offer rather than on specific merchandise, then store-wide offers would be prioritised.
  - The mobile telephone could be part of an in-car system (typically integrated into a car navigation system) so that the advertising messages can be viewed on the in-car display. In such an implementation, the mobile telephone is a mobile data terminal.

15

The TELDEALS System requirement follows:

### **TELDEALS System Requirements**

#### **Home Page (Web Only)**

#### **20      Overview**

The home page will be a major entry point to the system for customers. In the case of Saverfone-branded services, the URL of the home page will be the URL advertised to customers. Saverfone will construct a home page with similar functionality but a different look and feel for its white label partners. Vendors will also access the system via this general  
25      home page.



### Functional Requirements

A home page will be provided which gives a brief textual description of the Saverfone service and provides links to the four main areas of functionality (user registration, vendor registration, offer entry and offer retrieval).

5

### User Registration (Web Only)

#### Overview

The system must allow for a user to register with the service. Registration will involve the user providing personal details, as well as selecting those areas of interest to them. The user location when retrieving offers will be calculated based on the location selected by the user from a three-tiered system of menus, or by location details from the Telco.

10

### Functional Requirements

When the user selects this option, text is to be displayed to the user containing Data Protection Act and other statutory and legal notices. The text to be displayed is to be provided by Saverfone. Two mutually exclusive selectable options are to be presented <I agree> or <Cancel>.

15

Selecting:

- <Cancel> returns to the home page.
- <I agree> will present a data entry form.

20

The data to be collected on the data entry form is as follows:

Name	Mandatory	Validation / Comments
Mobile Telephone number	Y	AKA Username Validation to ensure correct format (UK) i.e. 07xxx xxx xxx, and unique
Password	N	
First Name	N	
Last Name	N	

Gender	N	Radio button - Male or Female
Date of Birth	Y	Use to calculate age, and validate >5 and <130
E-mail address	N	Ensure @ in address, and at least one period after this.
Current Telephone Service Provider	Y	Mandatory on assumption we need to know this to route SMS correctly. Drop down selectable list containing: BT Cellnet, Vodafone, Orange, One2One, Virgin, Other
Phone Type	Y	Drop down list. For system contains one entry - Nokia 7110
Interested Areas	Y	Check boxes (one per option). Options provided for system: Dining Out, Entertainment, Travel, Beauty Services, Groceries, Clothing, Footwear, Sports Equipment, Electrical Equipment, Photographic
Permission for SMS	N	Drop down list of when a consumer would want to receive text message alerts about local offers. Options are Daily, Twice Weekly, Weekly, and Not at All
Timing of SMS	N	Drop down list of am or pm for preferred time to receive SMS
Home Location	N	Drop down list from which user can select.

- The ability for the user to set up filters, allowing them to exclude any offers which include text matching selected filters - e.g. hair\*, Sainsbury, "get one free" - will be in the full production system. Although date of birth will be collected for the system, no functionality based on this field, or any value derived from it, will be included in the full production system. A means of allowing the user to submit the entered details will be provided (e.g. "Register Me" button). Upon submitting the details, the information will be saved in the database, and a confirmation notice provided to the user before returning them (automatically or manually via a provided link) to the home page.

## 10 Vendor Registration (Web Only)

### Overview

A form to allow a vendor to register themselves. The vendor can set up as a user their entire chain, a region, or an individual outlet.

15

### Functional Requirements

- When the user selects this option, text is to be displayed to the user containing DPA and other statutory and legal notices (e.g. terms and conditions of service / charging structure). This text is to be provided by Saverfone. Two mutually exclusive selectable options are to be presented <I agree> or <Cancel>.

Selecting:

- <Cancel> returns to the home page.
- <I agree> will present a data entry form.

- 25 The data to be collected on the data entry form is as follows:

Name	Mandatory	Validation / Comments
Username	Y	Unique
Password	Y	> 6 characters

Business Name	Y	
Address Line 1	Y	
Address Line 2, 3, 4	N	or other data fields as determined necessary to locate the business
Postcode	Y	Validation against PAF out of scope for system
Location	Y	Drop down list
Contact Name	Y	
Contact Tel No	Y	
Line of Business	Y	Check boxes (one per option). Options provided for system: Dining Out, Entertainment, Travel, Beauty Services, Groceries, Clothing, Footwear, Sports Equipment, Electrical Equipment, Photographic Validation that at least one option is selected.
Billing Address	N	and other details required for Invoicing

- A means of allowing the vendor to submit the entered details will be provided (e.g. "Register Me" button). Upon submitting the details, the information will be saved in the database, and a confirmation notice provided to the vendor before returning them (automatically or manually via a provided link) to the home page.
- 5

#### Offer Entry (Web Only)

## Overview

This function provides a means for vendors to add, edit, or delete (expire) offers or adverts.

## Functional Requirements

- 5 The vendor must be logged in to select this option, otherwise they will be prompted for their username and password. This will take them to a screen listing their current valid offers.

The list will display as follows:

Unique Id / Offer reference / Headline / Location Restrictions / Value / Value Type  
/Valid From / Valid To / #Views /#Messages

10

There will be various options displayed.

For each line:

### Details

Selecting this option will take the vendor to a read only form displaying the full offer details.

### 15 Modify Offer

Upon selecting this option the user will be taken to the modify offer form which will be populated with the details of the offer selected. Two further options will be presented on this screen; "modify" and "cancel". The user can modify the details of the offer, following the same rules as add offer. Upon selecting "modify" the system will:

- 20
1. Set the expiry date of the original offer to the start date of the new offer - 1 second.
  2. Insert a new record with the amended details with the appropriate start and expiry times.
  3. Show a confirmation screen to the user before returning them to the offer listings screen.

Selecting "cancel" will return the user to the offer listings screen without effecting any changes.

### 25 Expire Offer

For the system, the user will be prompted to confirm that they wish to expire the selected offer. Upon confirming, the expiry date of the offer will be set to the current system datetime. If the user does not confirm, they will be returned to the offer listings screen without effecting any changes.

The ability for the user to set a future expiry date will be in the production system.

General:

#### Add Offer

Upon pressing the user will be taken to the add offer form which will be as follows:

- 5 The data to be collected on the add offer entry form is as follows:

Name	Mandatory	Validation / Comments
Offer Reference	Y	Auto generated by the system (non-enterable)
Offer Category	Y	Drop down list containing: Dining Out, Entertainment, Travel, Beauty Services, Groceries, Clothing, Footwear, Sports Equipment, Electrical Equipment, Photographic Only one category may be selected
Offer start datetime	Y	>Current datetime
Offer expiry datetime	Y	minimum of 30 minutes from start datetime
Offer headline	Y	Maximum of 38 characters (2 lines on a Nokia 7110)
Value	Y	e.g. "20" or "free" or "3 for 2"
Value Type	Y	Drop down list containing: <% off>, <£ discount>, <free related product>, <multipurchase>, <other>
Location Restrictions	Y	Drop down list containing: Same store, Any Store, Geographic Area NB> Validation in the system will prevent any option other than "Same Store" being selected.
Location Restriction Detail	N	Mandatory if Geographic Area selected in

		Location Restrictions, otherwise not applicable. Multi-select list of locations provided to the user.
Offer Text	Y	Brief description of offer. Maximum 160 chars.
Offer redeem no.	Y	Provided by vendor for cross-ref with in-store systems - could be barcode number

A means of allowing the vendor to submit the entered details will be provided (e.g. "Add" button). Upon submitting the details, the information will be saved in the database, and a confirmation notice provided to the vendor before returning them (automatically or manually via a provided link) to the offer listing page.

#### 5 Exit

Upon selecting this option, the user will be returned to the home page.

### Offer Retrieval (Web and WAP/Internet Phone)

#### Overview

- 10 This function allows the user to retrieve offer details and receive the redeem number of offer to use. The functionality from web and phone is similar.

#### Functional Requirements

- 15 The user will be required to be logged in to use this function. On the web the user will be prompted to login or redirected to the user registration function as appropriate. Via WAP/Internet Phone, the production system will automatically read the user's calling phone number and the system will attempt to retrieve the user's preferences based on this number. If none are found, the user is to be registered implicitly. Firstly, text is to be displayed to the user containing Data Protection Act and other statutory and legal notices. This text is to be

provided by Saverfone. Two mutually exclusive selectable options are to be presented <I agree> or <Cancel>.

Selecting:

- <Cancel> aborts the registration and will exit the user from the service.
- 5 • <I agree> will result in a registration record being created for the phone number provided, with the (last) name set to the phone number, and with all categories selected by default.

The prototype system will not determine the caller's phone number, and hence no registration process will occur.

- 10 If the number is found, the user will be implicitly logged in, and their stored details will be used. The system will only support the concept of a single person per phone number, and will assume that all numbers entered are correct.

The user will then be offered a choice of selecting offer by location or by category.

15 **By location**

A menu of 'level 1' locations will be displayed to the user e.g. London, South East, South West etc. The user can select one of these locations and will be displayed 'level 2' locations e.g. London NW, London NE, London SE, London SW, London Central. The user can then select a 'level 2' location and will be displayed 'level 3' locations, e.g. Oxford Street,

20 Bond Street.

If there are more than 5 offers in a level 3 location, the user will be shown a list of merchandise categories available in that area from which to choose. In the case of both levels and merchandise categories, the system will only show those where offers are currently

25 active. The system will then retrieve all vouchers which meet the following criteria;

- Voucher has not expired
- Voucher does not expire within next 5 mins
- Location of store is within the selected level 3 location



- Category of offer is one of those selected by user

All vouchers meeting these criteria will display headline, e.g.

<Melons half price>

<Armani suits 2-4-1>

5 <FREE Car Wash w/£20 Fuel>

The user will be able to scroll through the offers and select those for which they wish to see additional details. Upon selecting a headline for which to view additional details (on the WAP/Internet Phone), these details will then be displayed to the user, showing the offering company, location, expiry, offer text, branch address, and redeem number. This action will be recorded. Upon selecting a headline for which to view additional details (on the web), the user will be taken to a screen where these details will then be displayed to the user, showing the offering company, location, expiry, offer text, branch address, and redeem number in a 'voucher' format for the user to print out. This action will be recorded.

15 After selection, the user will be able to return to the headline list and select another voucher.

#### **By category**

A list of categories will be displayed to the user for which there are valid coupons. The user's set category preferences will be ignored.

20 Valid offers are those which meet the following criteria:

- Voucher has not expired
- Voucher does not expire within next 5 minutes

If there are less than six valid coupons, the headline list will be displayed automatically, otherwise the user will select a category to see the headline list of vouchers for that category.

25 The process will then proceed as for the location-based process.

**Claims**

1. A method of transmitting advertisement data from a server to a mobile telephone,  
5 comprising the following steps:
  - (a) making a set of advertising data available to at least one server;
  - (b) finding the location of a mobile telephone of a user;
  - (c) allowing the user to access or download a sub-set of the set of advertising  
10 data from the server, the sub-set being determined by the location of the mobile telephone.
2. The method of Claim 1 in which the user accesses a WWW or WAP site on which the  
sub-set of advertising data is located.
- 15 3. The method of Claim 1 or 2 in which the advertising data relates to a potential transaction and, if the user wishes to enter into that transaction, he or she can send a response to the source of that advertising data indicating an interest in that transaction.
4. The method of Claim 3 in which, after indicating an interest in the potential  
20 transaction, the mobile telephone of the user is sent a unique identifier.
5. The method of Claim 4 in which the unique identifier is a coupon which, when shown to a retailer, allows the user to initiate or complete the potential transaction.
- 25 6. The method of any preceding Claim in which the sub-set is additionally determined by the time of day.
7. The method of any preceding Claim in which the sub-set is additionally determined by a profile of the user.

8. The method of Claim 1 in which the location of the mobile telephone is determined automatically.
- 5 9. The method of Claim 1 in which the location of the mobile telephone is determined manually by the user inputting to, or selecting location related information displayed on, the mobile telephone.
- 10 10. A server storing a set of advertising data and programmed to provide a sub-set of that data to a mobile telephone requesting such data from the server, the server being programmed to make the selection of the sub-set automatically in dependence on the location of the mobile telephone of a user.